Fig.1

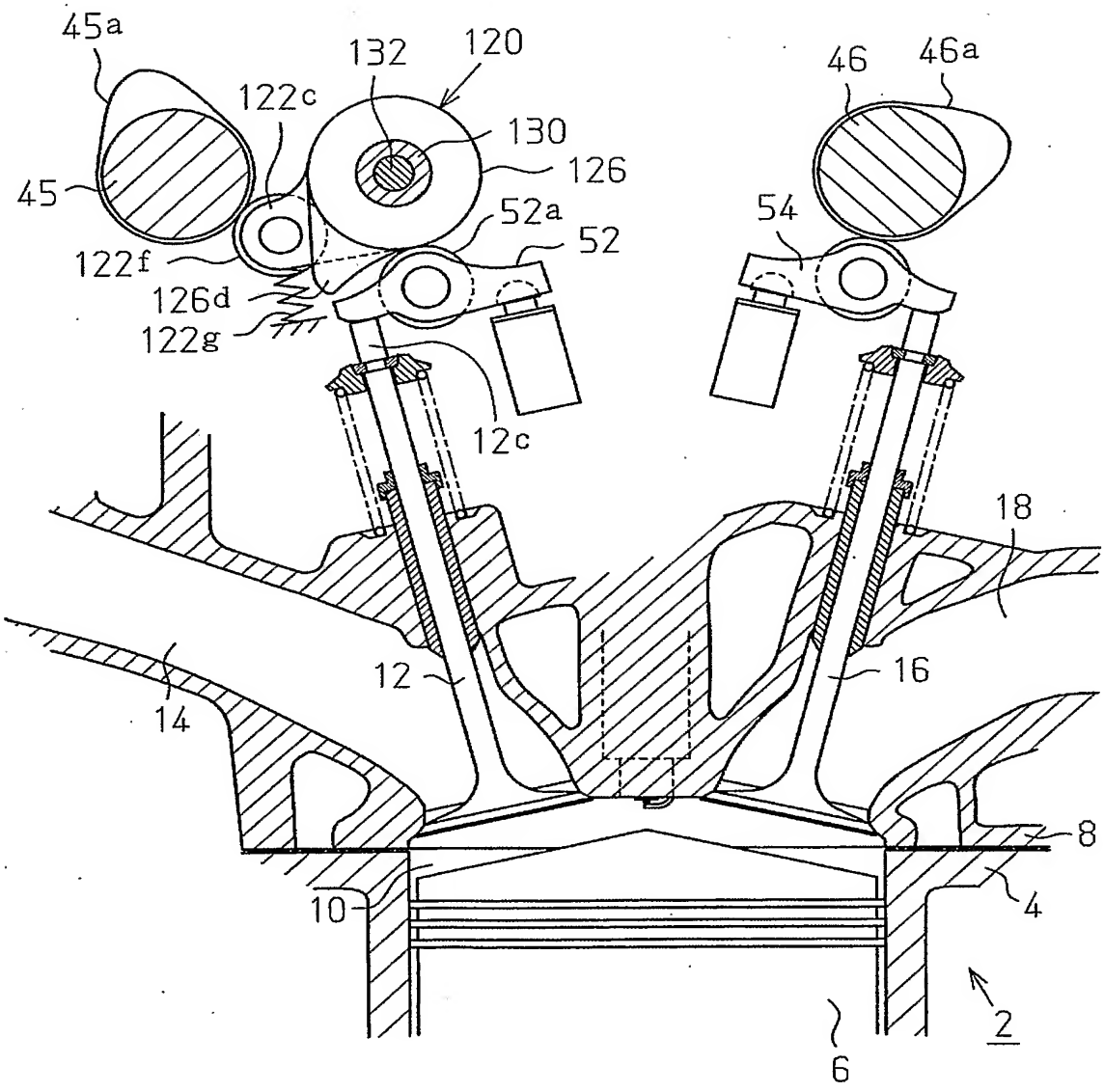

45a
132
120
122c
130
126
45
52a
52
122f
126d
122g
12c
46
46a
54
18
12
16
14
8
10
4
2
6

Fig.2

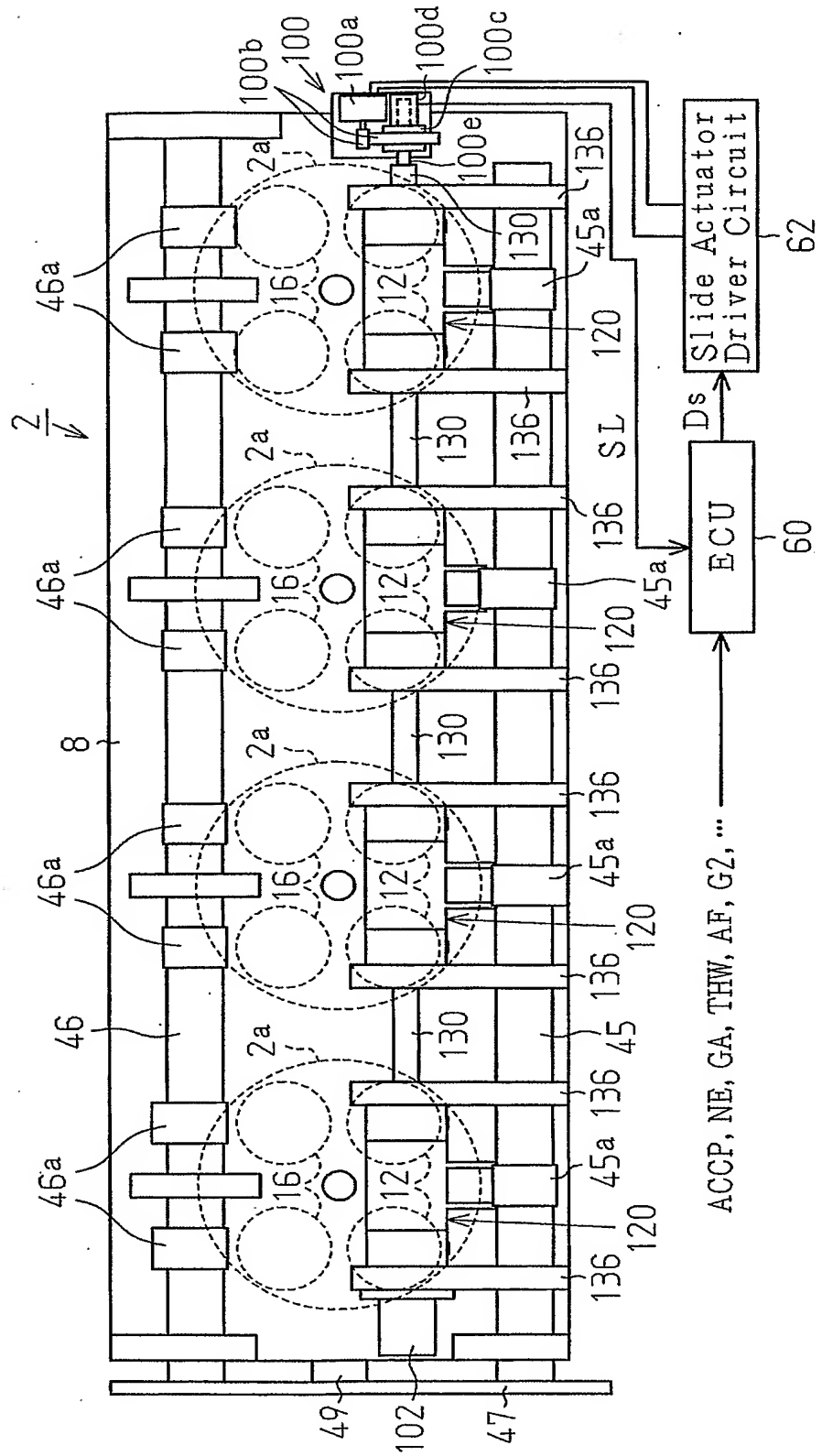

100b
100
100a
100d
100c
100e
2a
136
130
45a
12
120
46a
16
2
SL
Slide Actuator Driver Circuit
62
Ds
ECU
60
8
46
45
49
102
47
ACCP, NE, GA, THW, AF, G2, ···

Fig.3

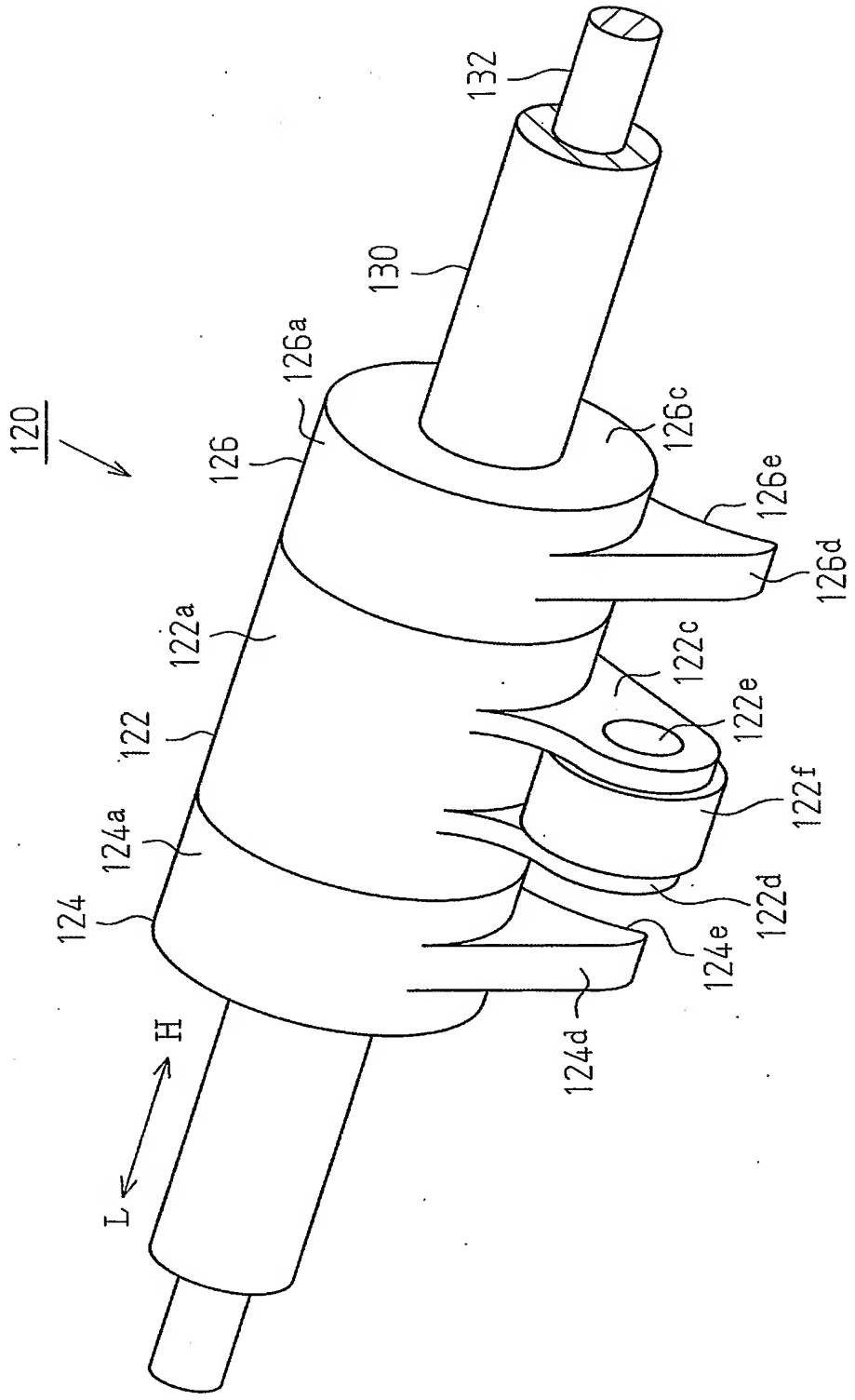

120
132
130
126a
126
126c
126e
126d
122a
122
122c
122e
122f
124a
124
122d
124e
124d
H
L

Fig.4 (A)

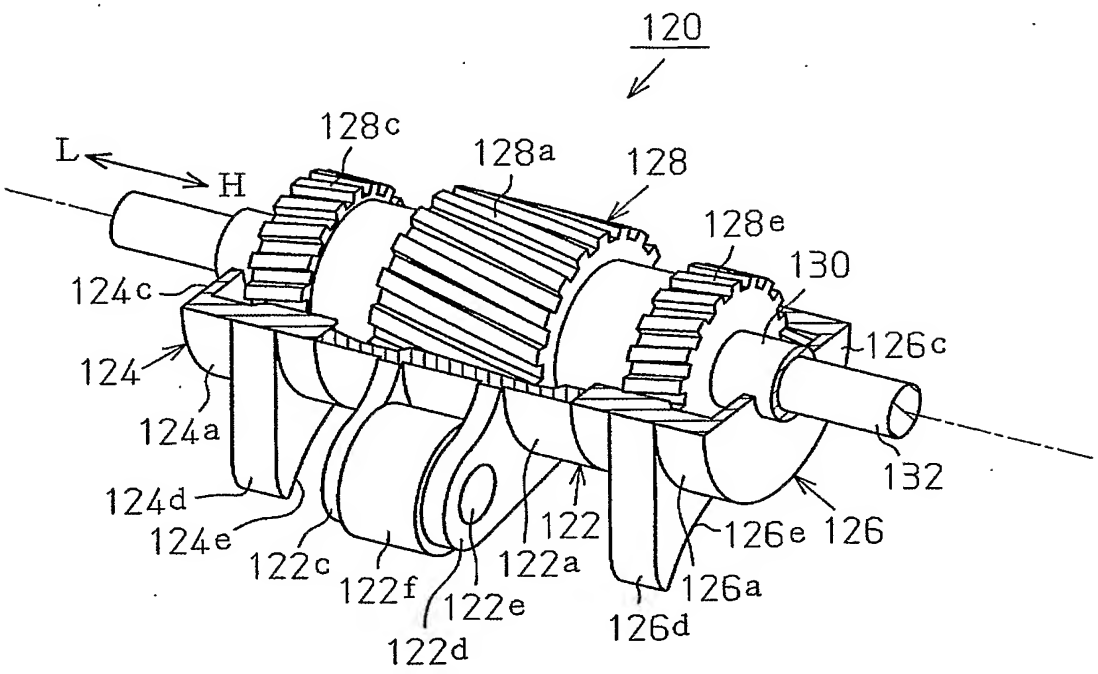

120
128c
128a
128
L
H
128e
130
124c
126c
124
124a
132
124d
124e
122c
122f
122e
122d
122
122a
126e
126
126a
126d

Fig.4 (B)

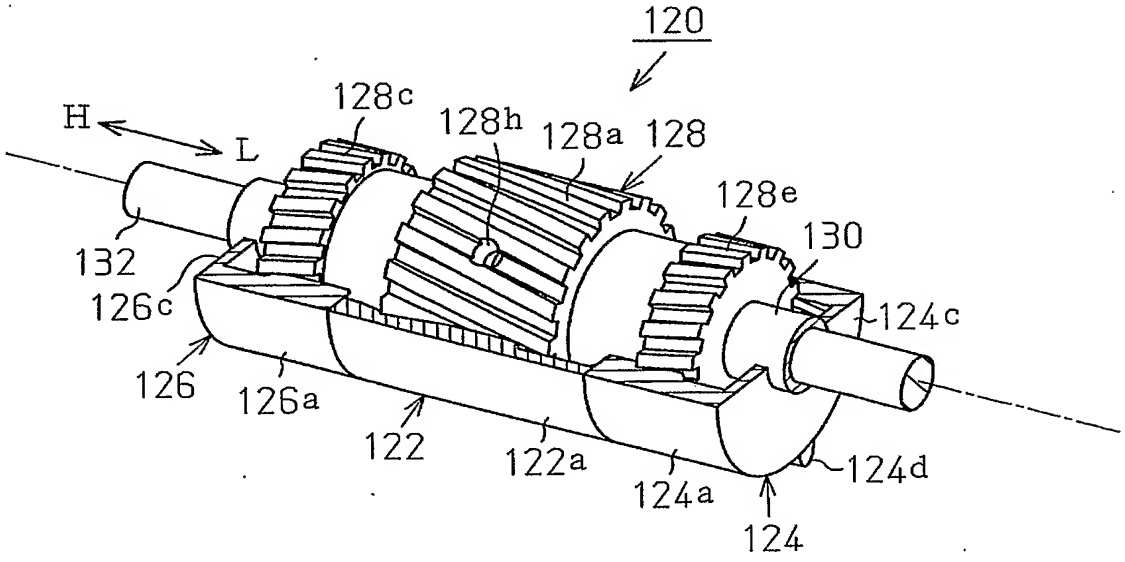

120
128c
128h
128a
128
H
L
128e
130
132
126c
124c
126
126a
122
122a
124a
124d
124

Fig.5

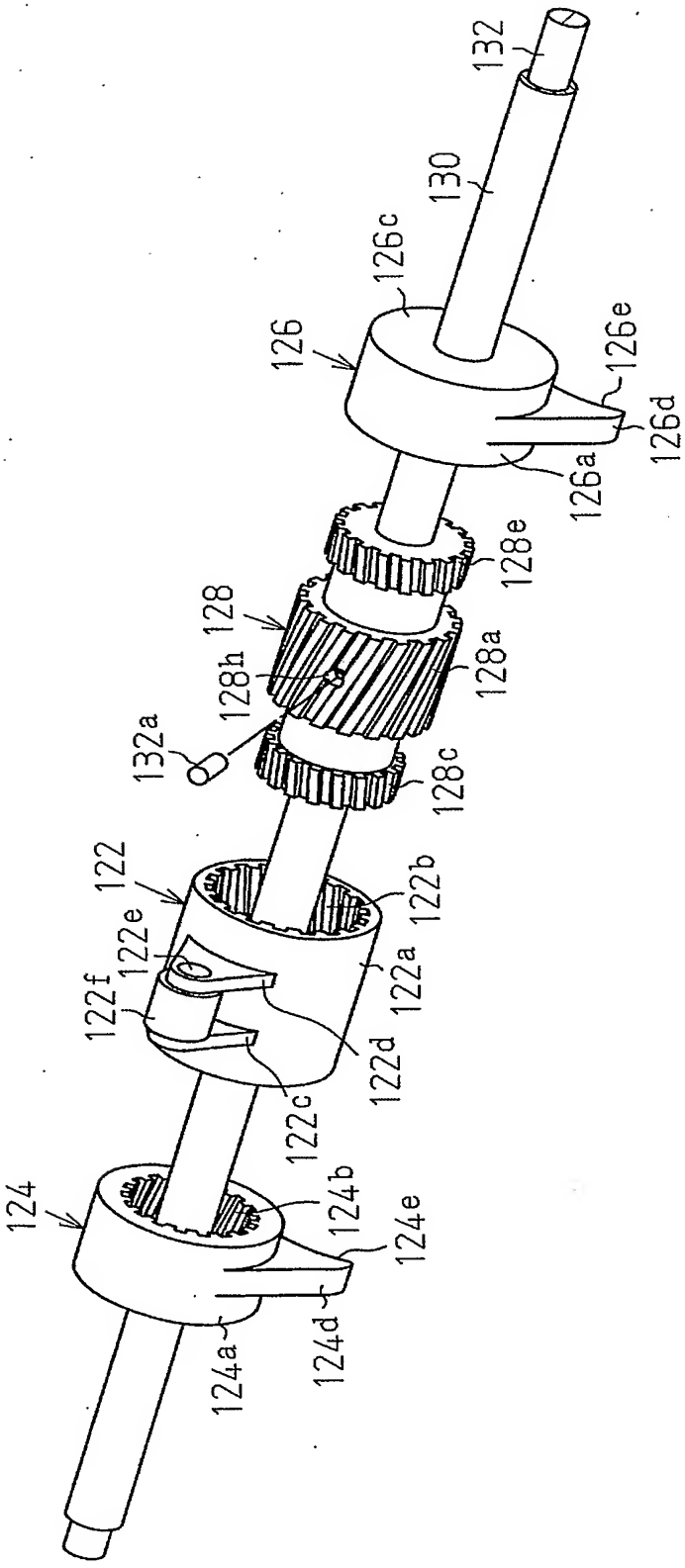

132
130
126c
126
126e
126d
126a
128e
128
128h
128a
132a
128c
122
122b
122e
122a
122f
122d
122c
124
124b
124e
124d
124a

Fig.6 (A)

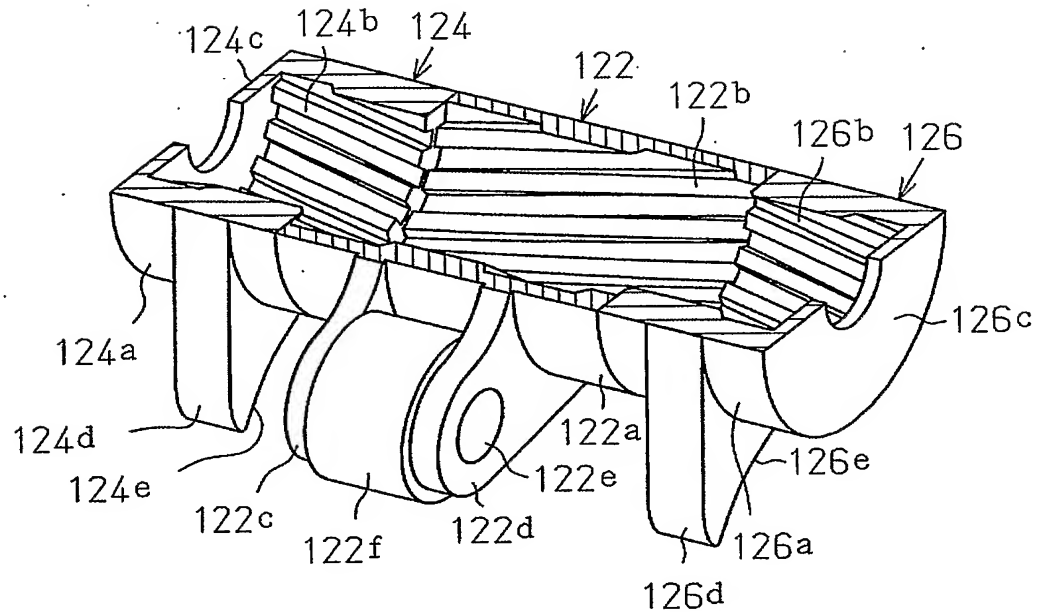

124c
124b
124
122
122b
126b
126
126c
124a
124d
124e
122c
122f
122d
122e
122a
126e
126a
126d

Fig.6 (B)

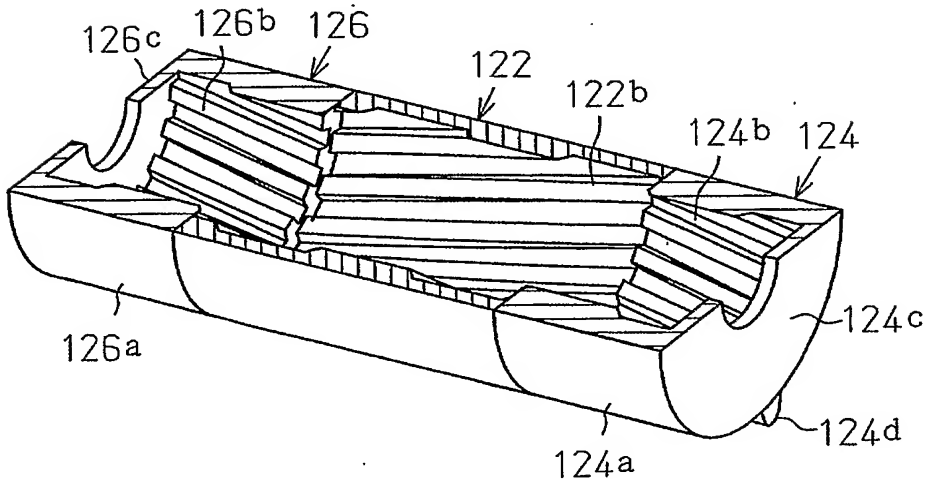

126c
126b
126
122
122b
124b
124
124c
126a
124d
124a

Fig.7 (A)

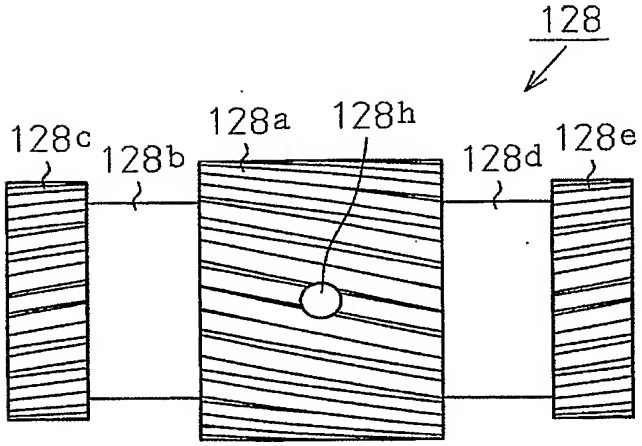


Fig.7 (B)

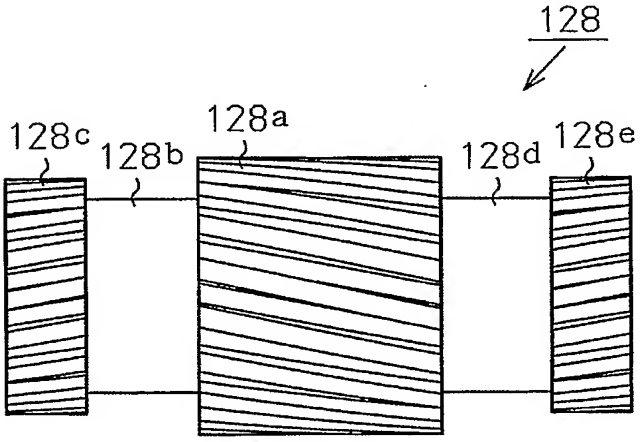


Fig.7 (C)

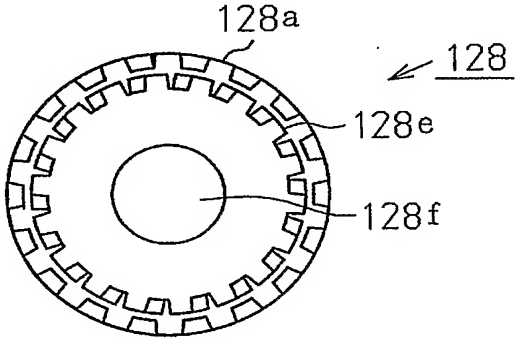


Fig.8

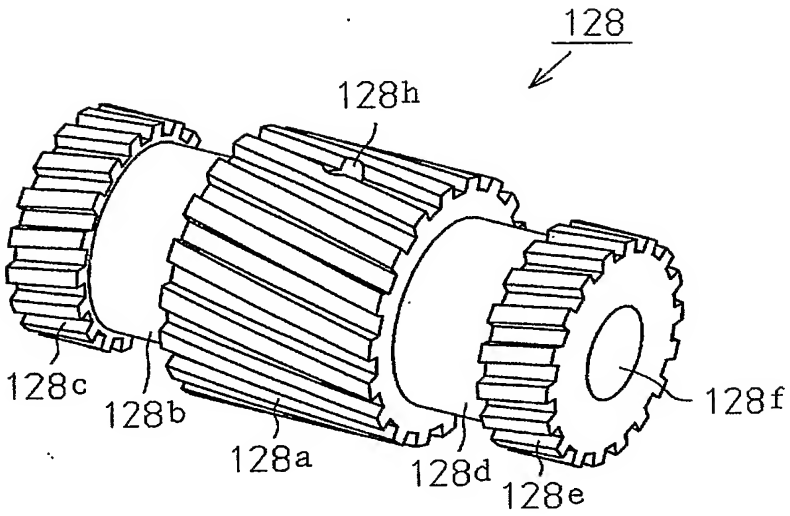

128
128h
128c
128b
128a
128d
128e
128f

Fig.9

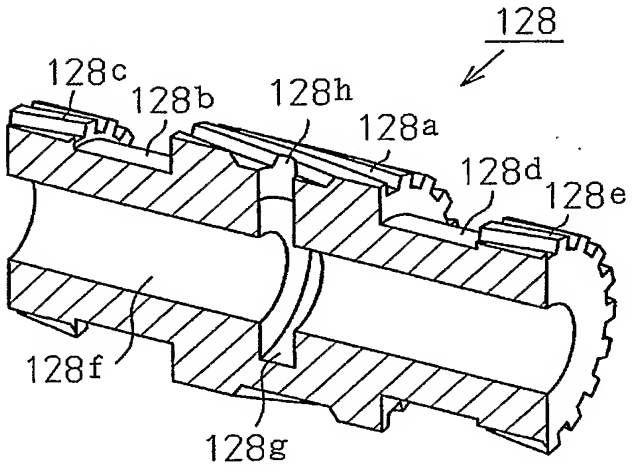

128
128c
128b
128h
128a
128d
128e
128f
128g

Fig.10(A)

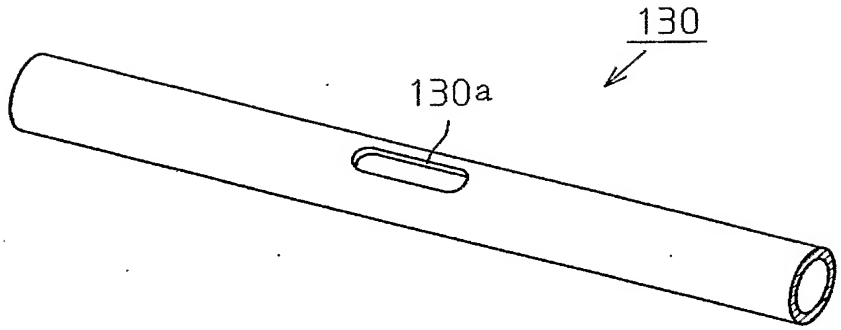


Fig.10(B)

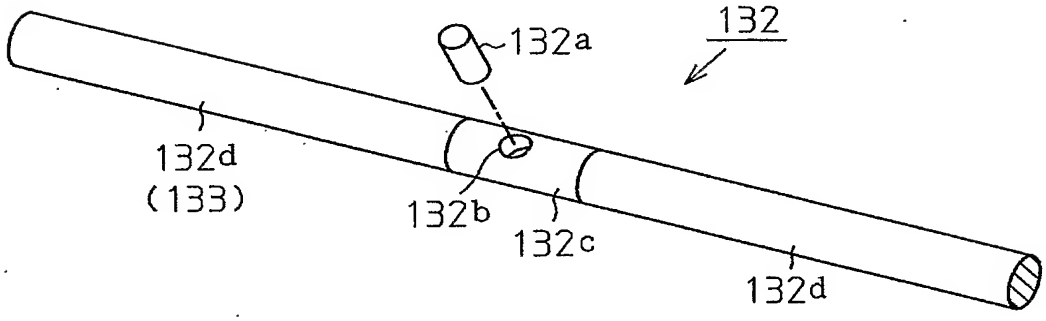


Fig.10(C)

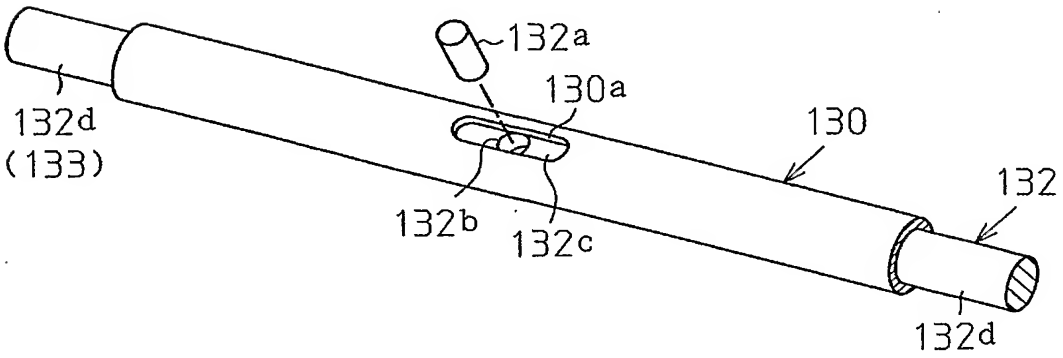


Fig.11

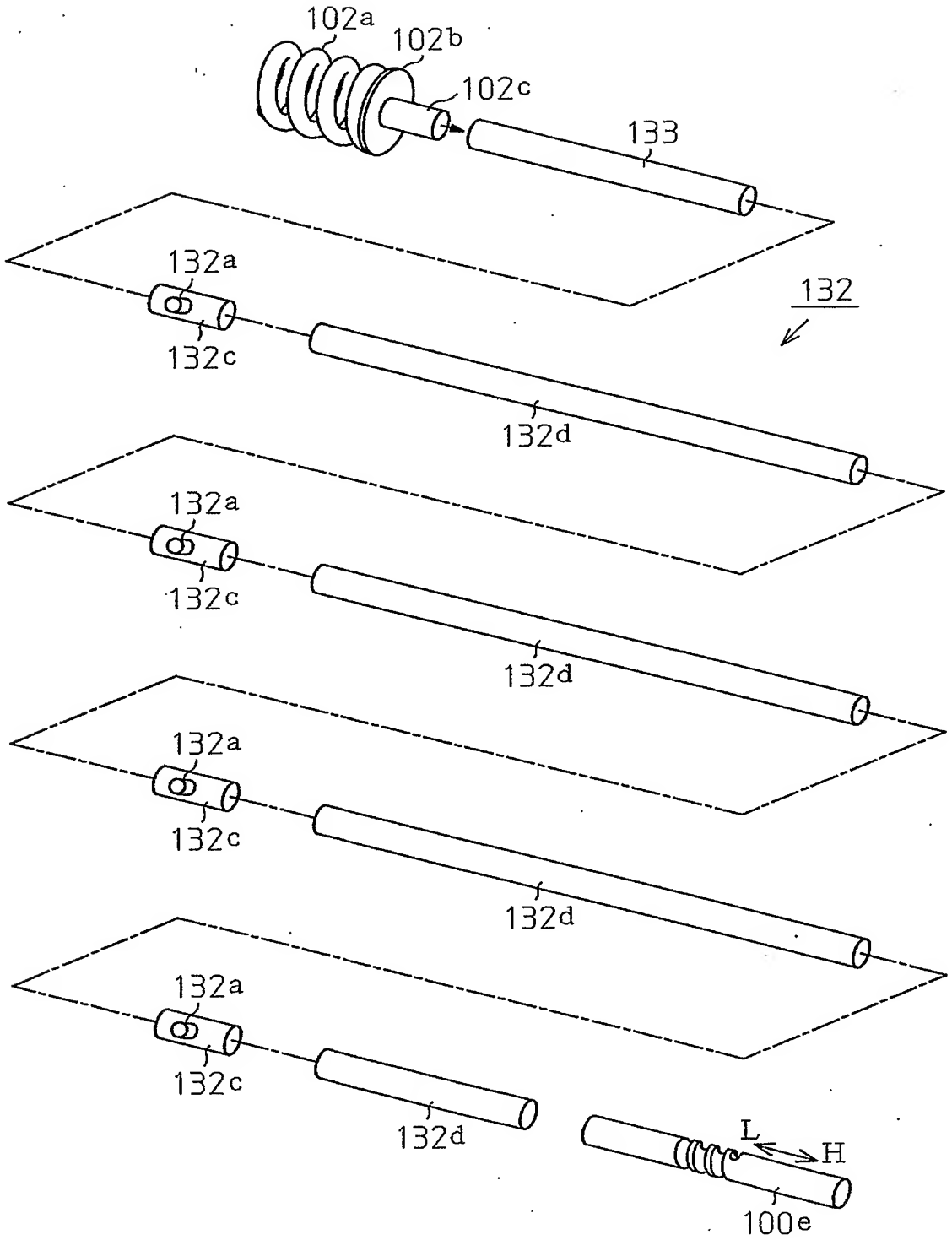

102a
102b
102c
133
132
132a
132c
132d
132a
132c
132d
132a
132c
132d
132a
132c
132d
L
H
100e

Fig.12

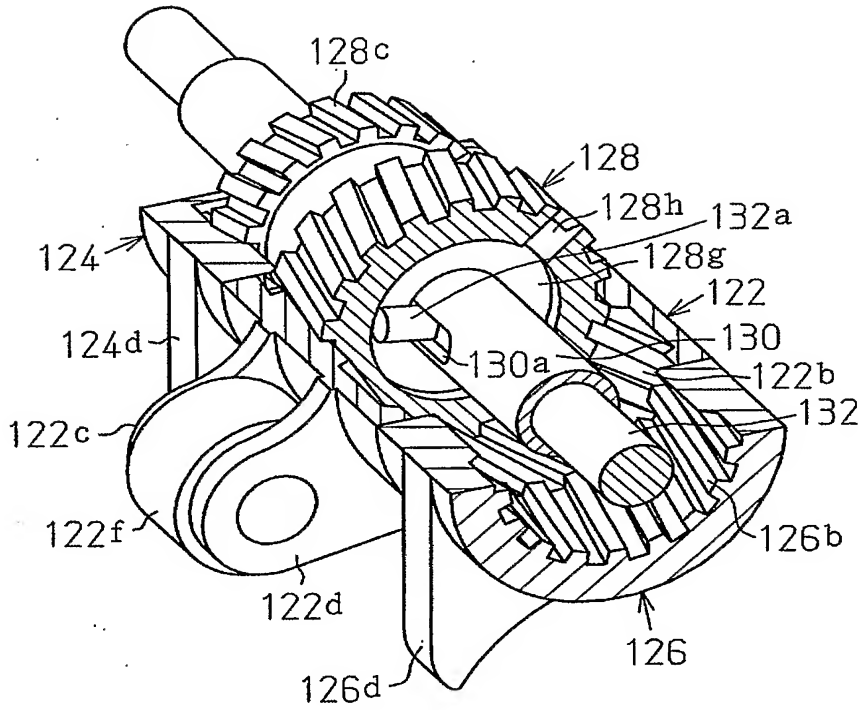

128c
128
128h
132a
124
128g
122
124d
130
130a
122b
132
122c
122f
126b
122d
126
126d

Fig.13(A)

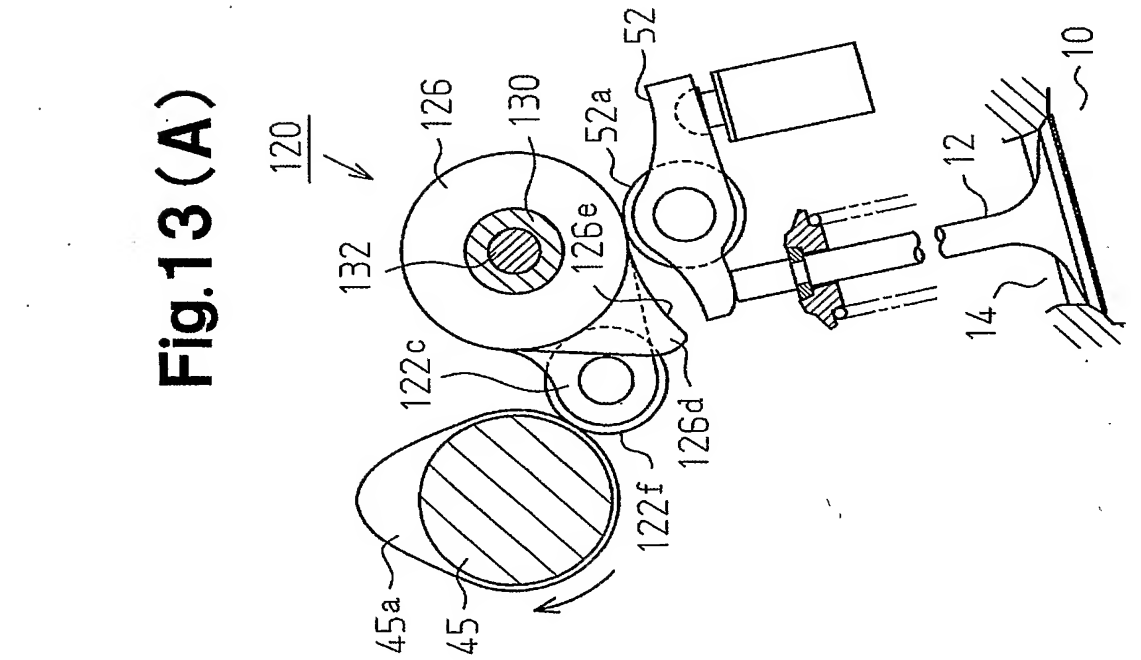


Fig.13(B)

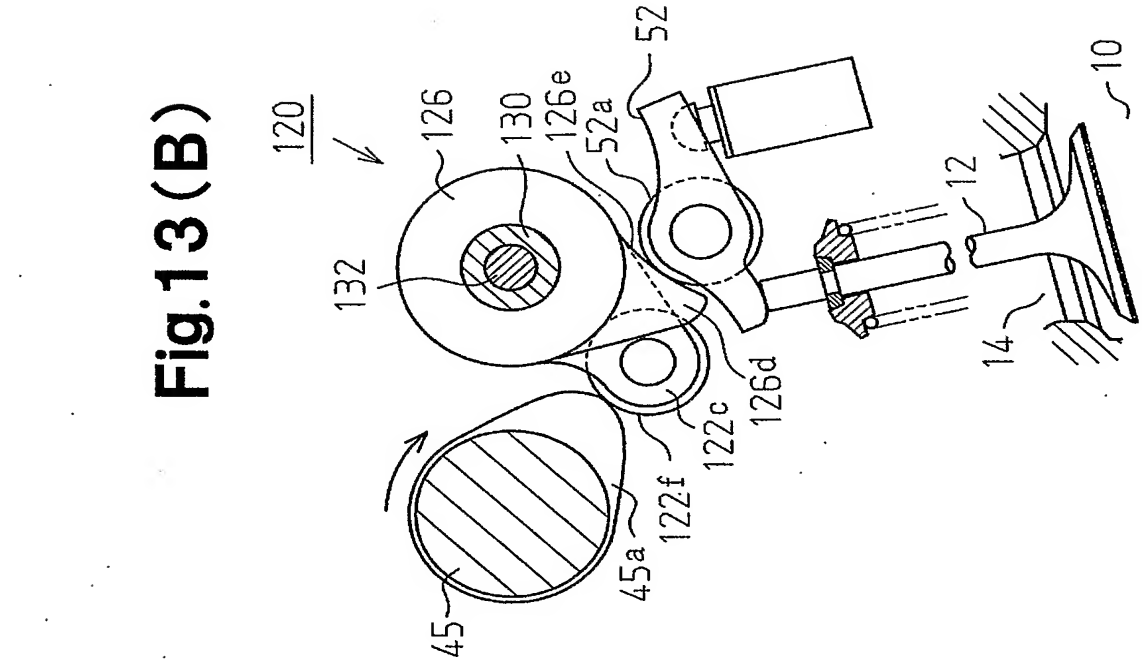


Fig.14(A)

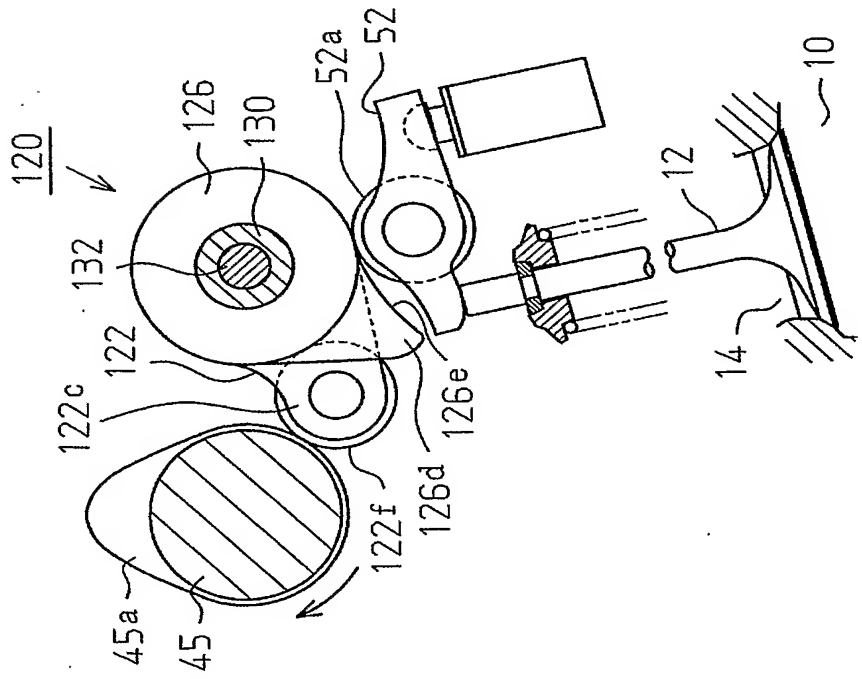


Fig.14(B)

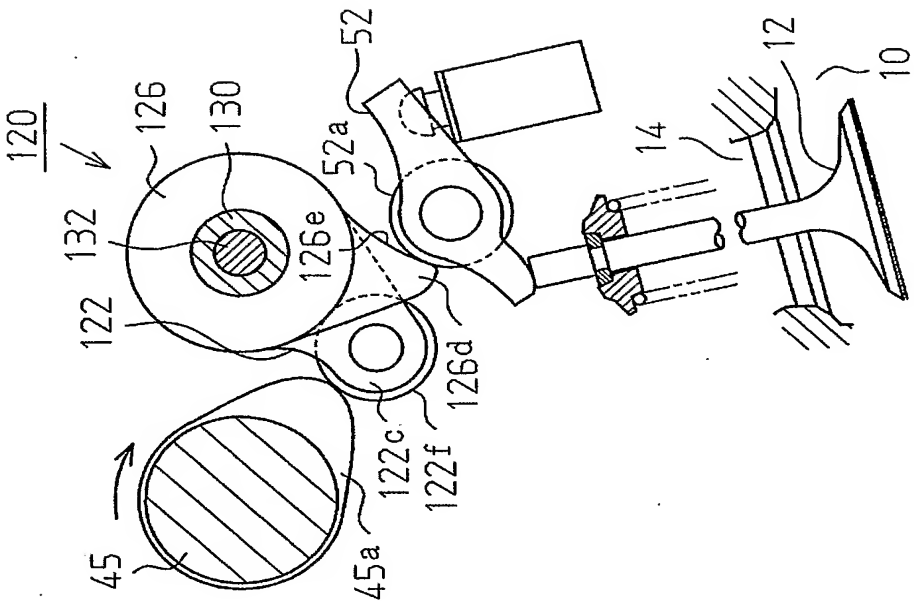


Fig.15

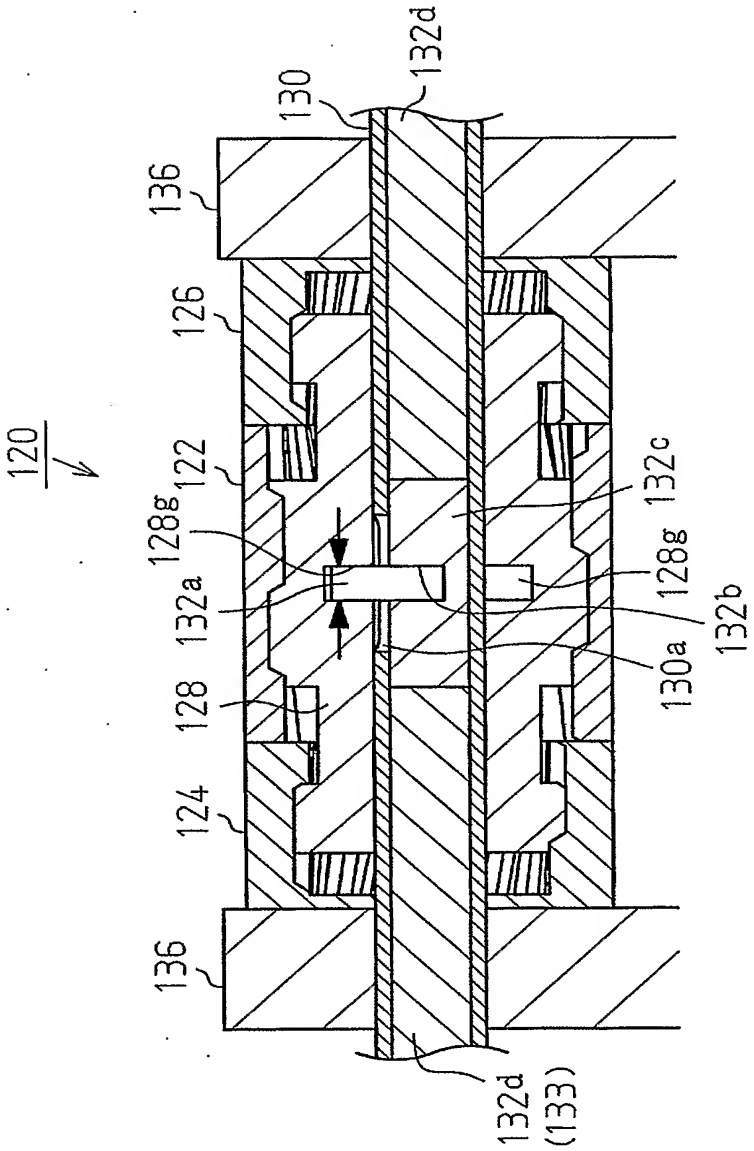

120
130
132d
136
126
122
128g
132a
128
124
136
132c
128g
132b
130a
132d
(133)

Fig.16

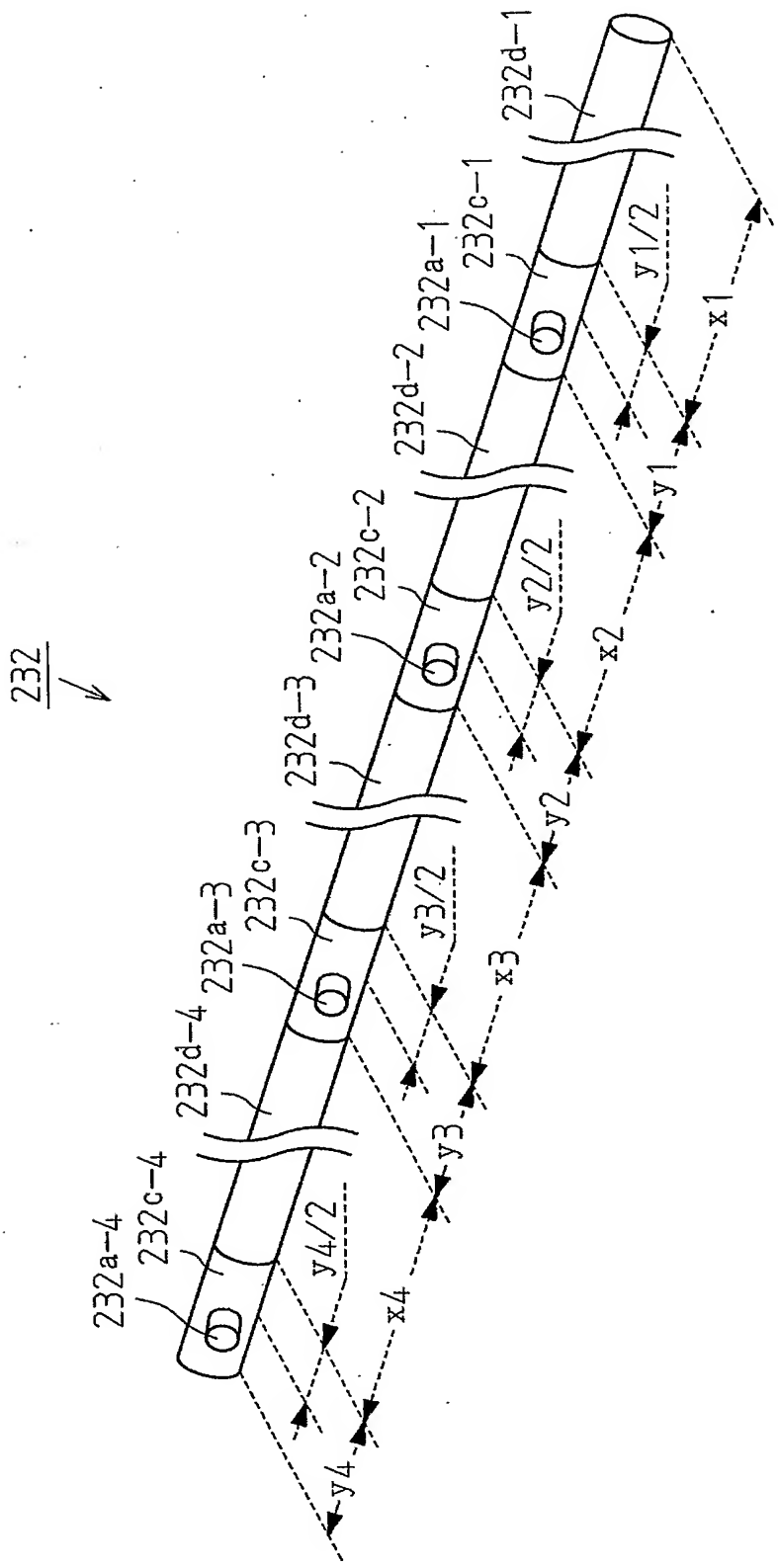

232
232d-1
232c-1
232a-1
232d-2
232c-2
232a-2
232d-3
232c-3
232a-3
232d-4
232c-4
232a-4
y1/2
y2/2
y3/2
y4/2
x1
x2
x3
x4
y1
y2
y3
y4

Fig.17

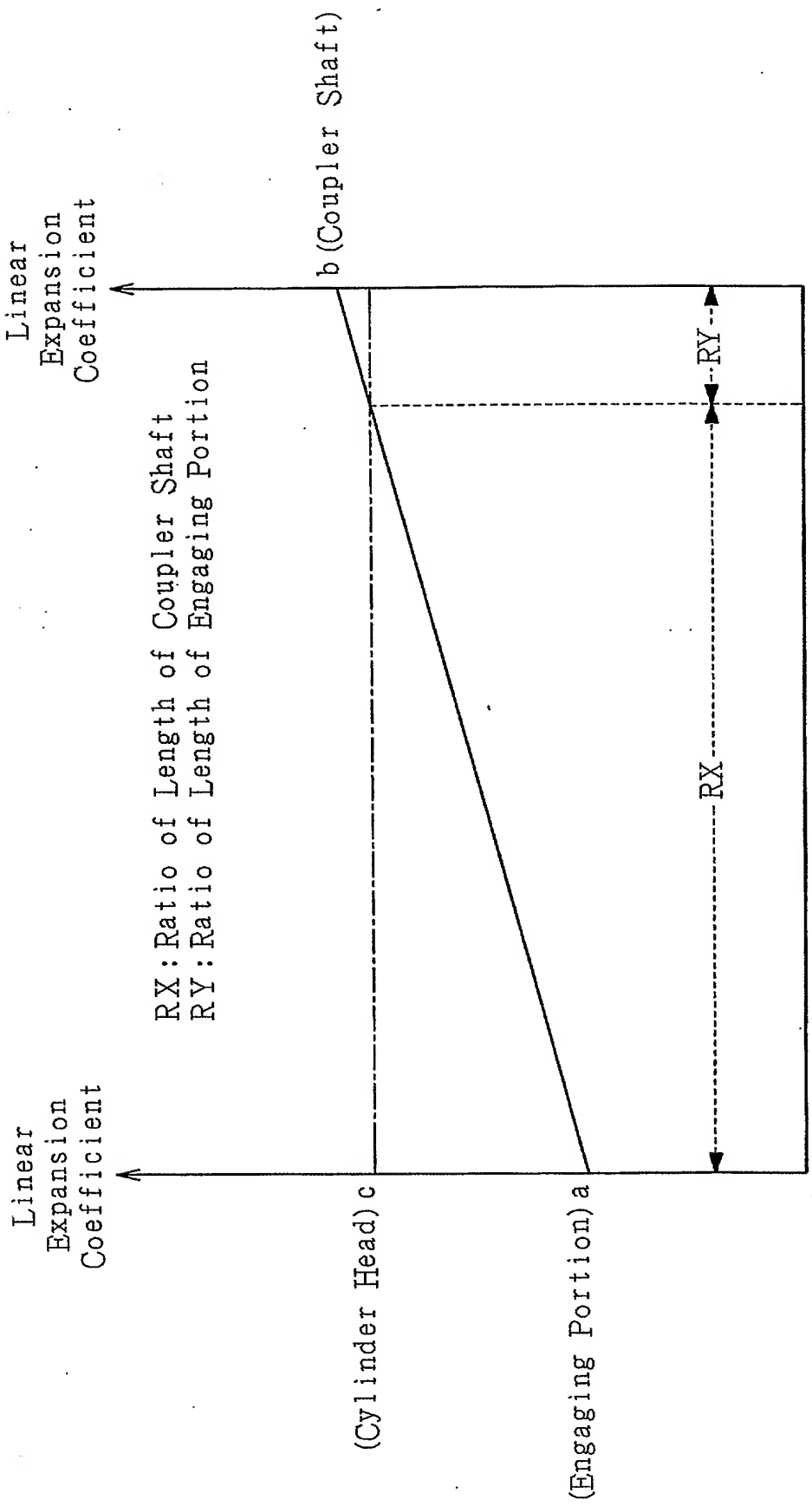

Linear Expansion Coefficient
b (Coupler Shaft)
RX : Ratio of Length of Coupler Shaft
RY : Ratio of Length of Engaging Portion
RY
RX
Linear Expansion Coefficient
(Cylinder Head) c
(Engaging Portion) a

Fig.18 (A)

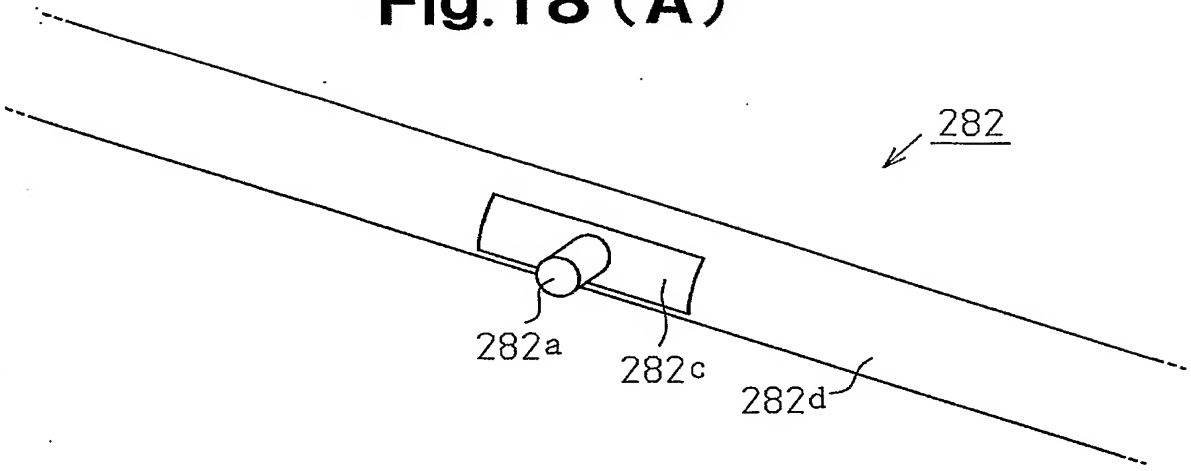


Fig.18 (B)

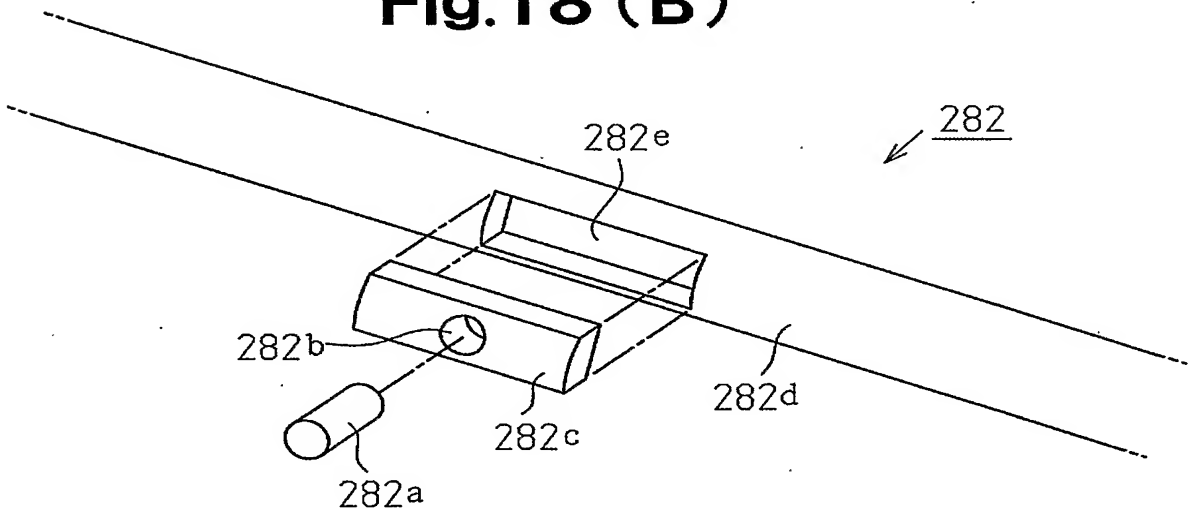


Fig.19

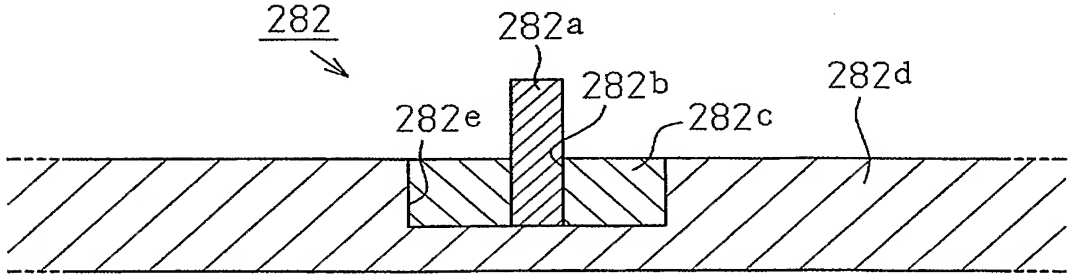


Fig.20

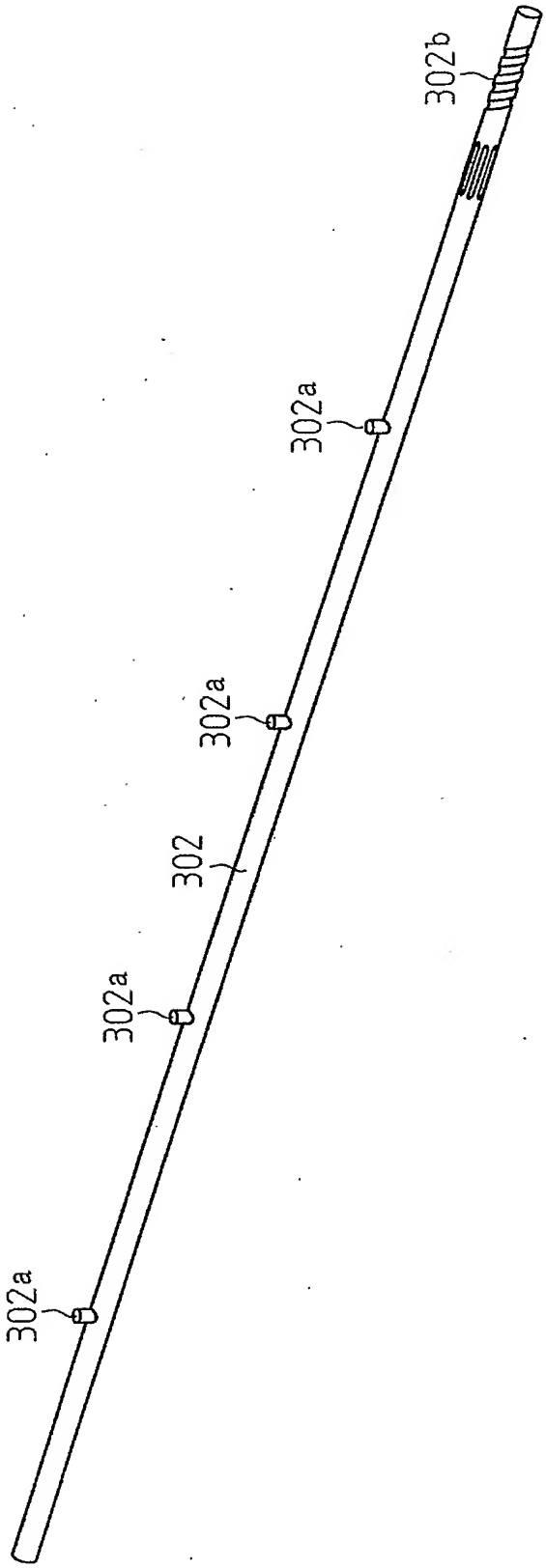


Fig.21

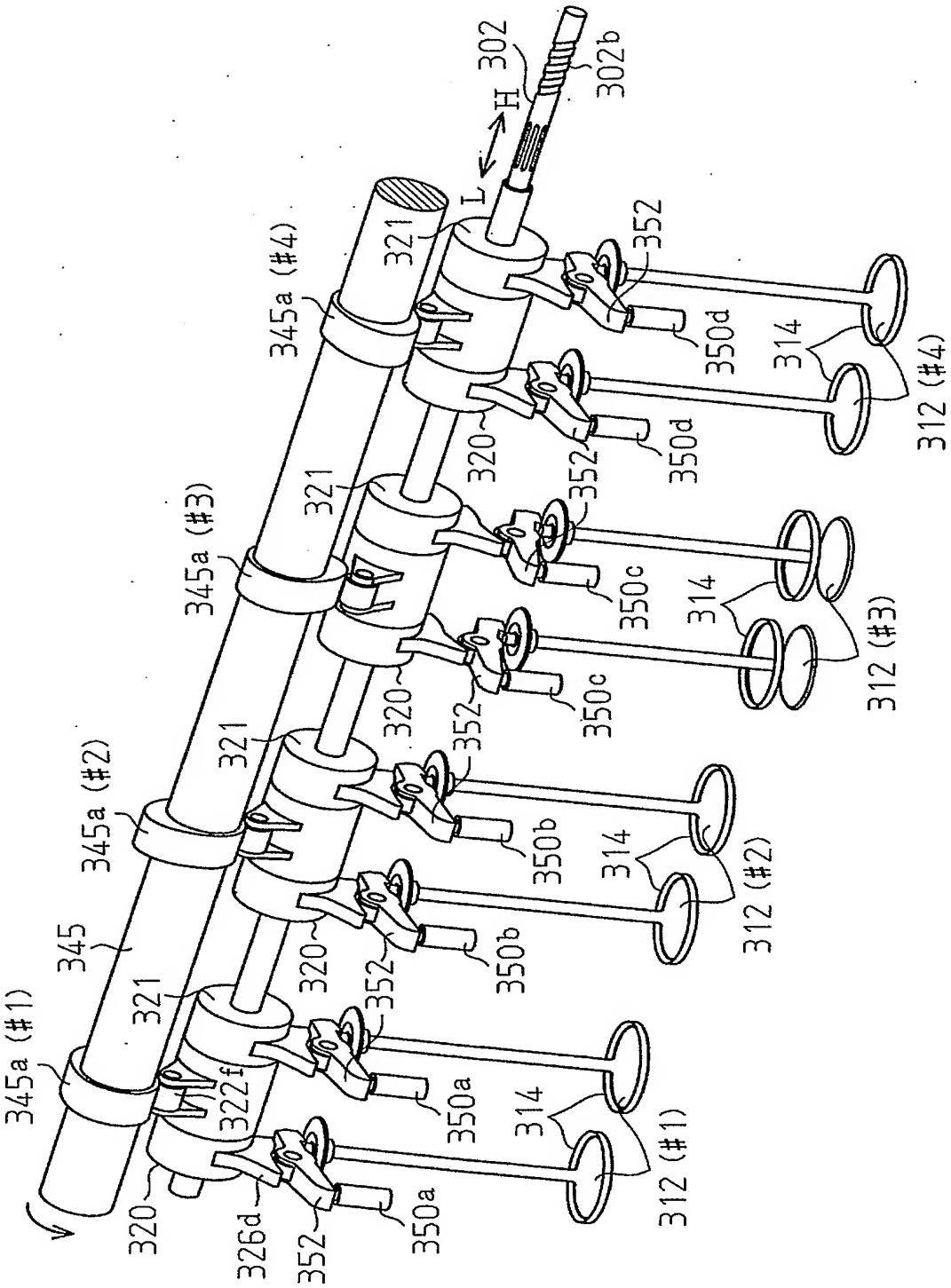
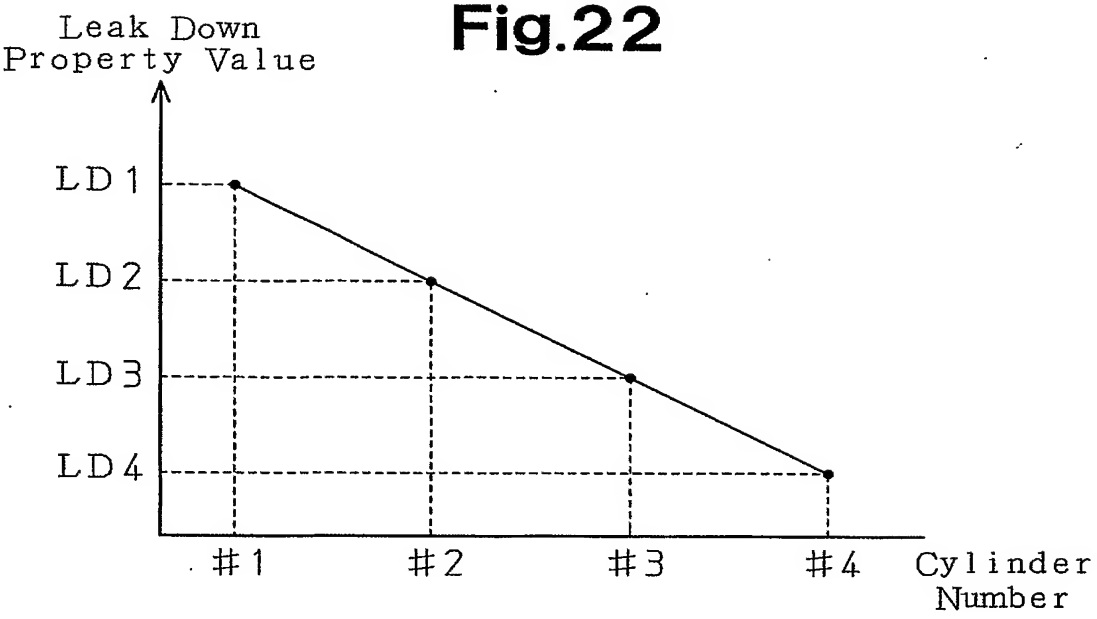

302
302b
H
L
321
345a (#4)
352
350d
314
312 (#4)
320
345a (#3)
350c
312 (#3)
345a (#2)
350b
312 (#2)
345
345a (#1)
322f
326d
350a
312 (#1)

Fig.22



[When Engine is Cold]

Fig.23 (A)

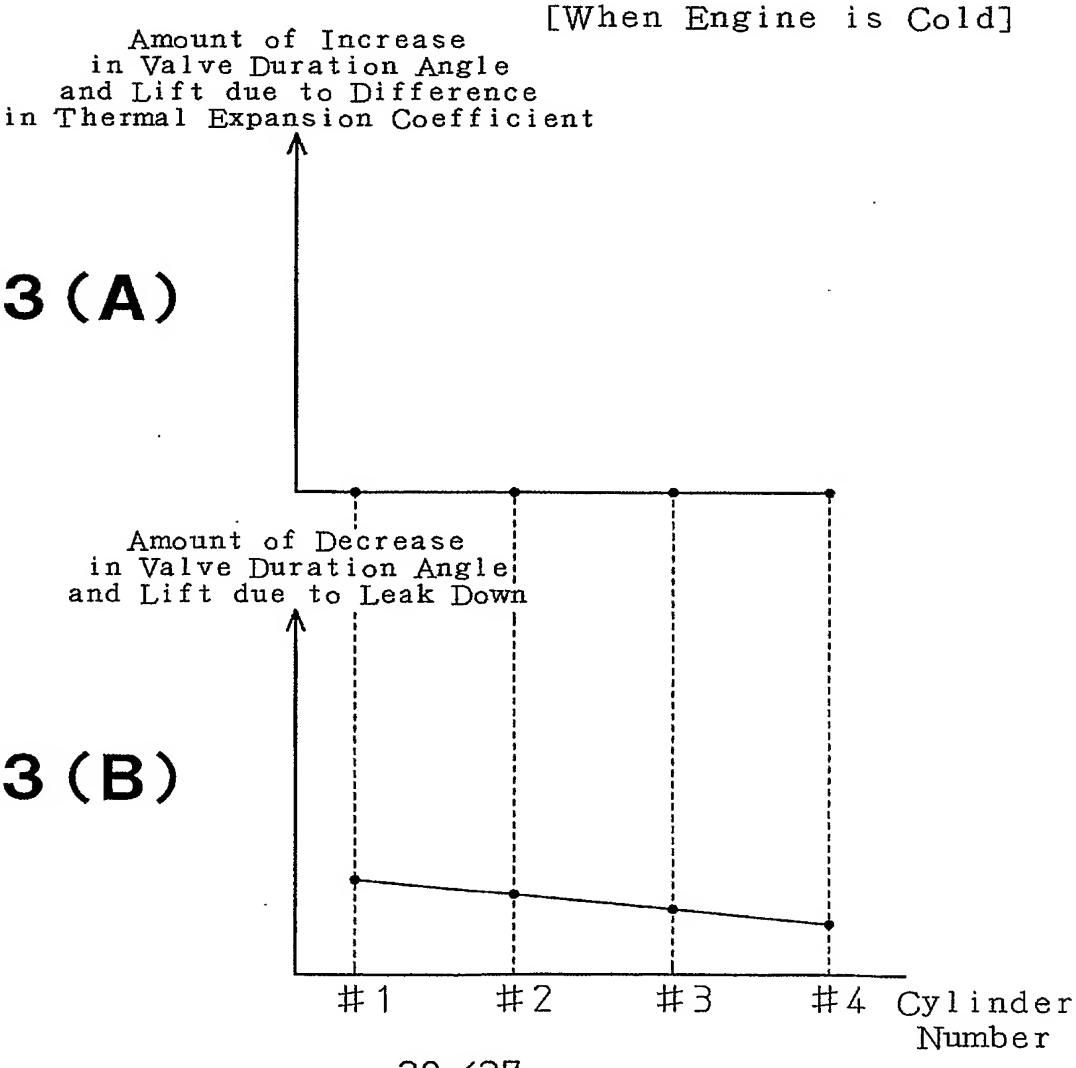
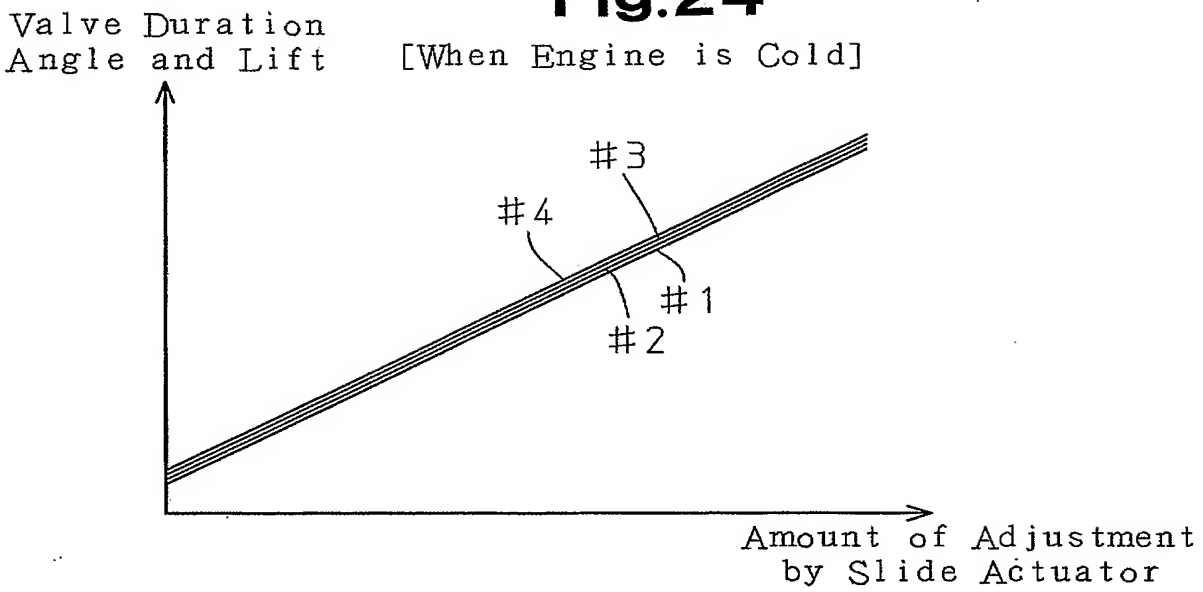


Fig.23 (B)

Fig.24



[After Engine is Warmed Up]

Fig.25 (A)

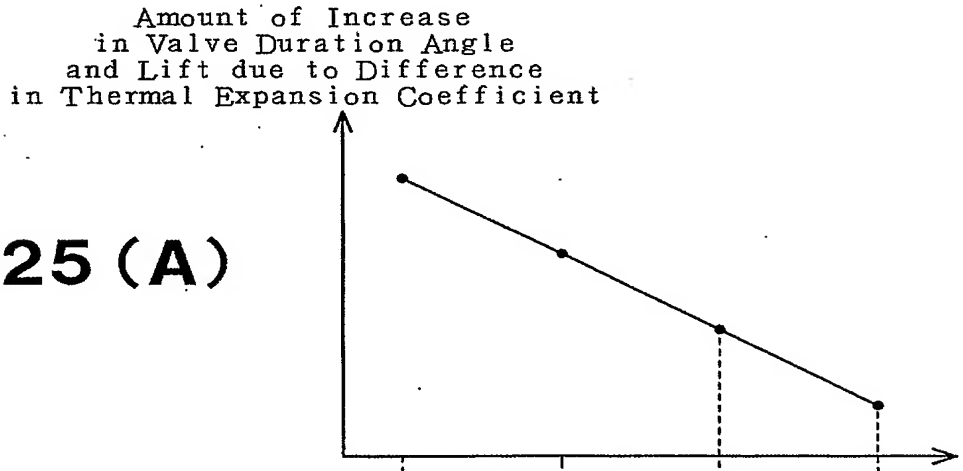


Fig.25 (B)

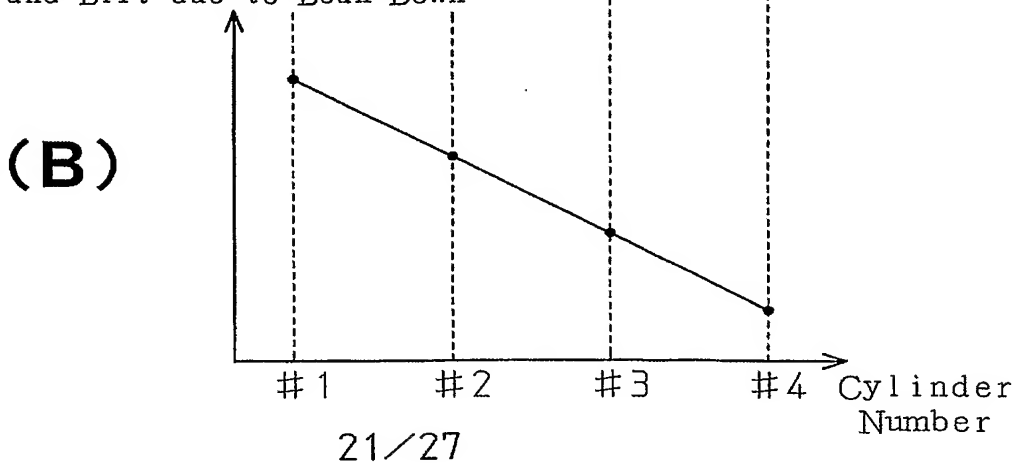


Fig.26

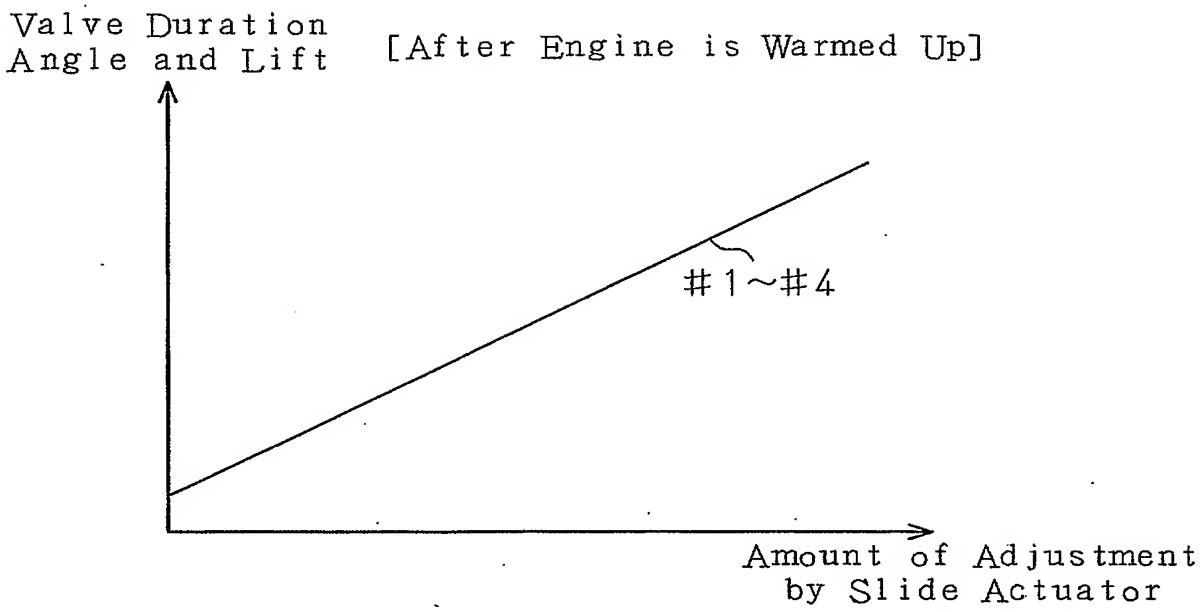

Valve Duration
Angle and Lift
[After Engine is Warmed Up]
#1~#4
Amount of Adjustment
by Slide Actuator

Fig.27

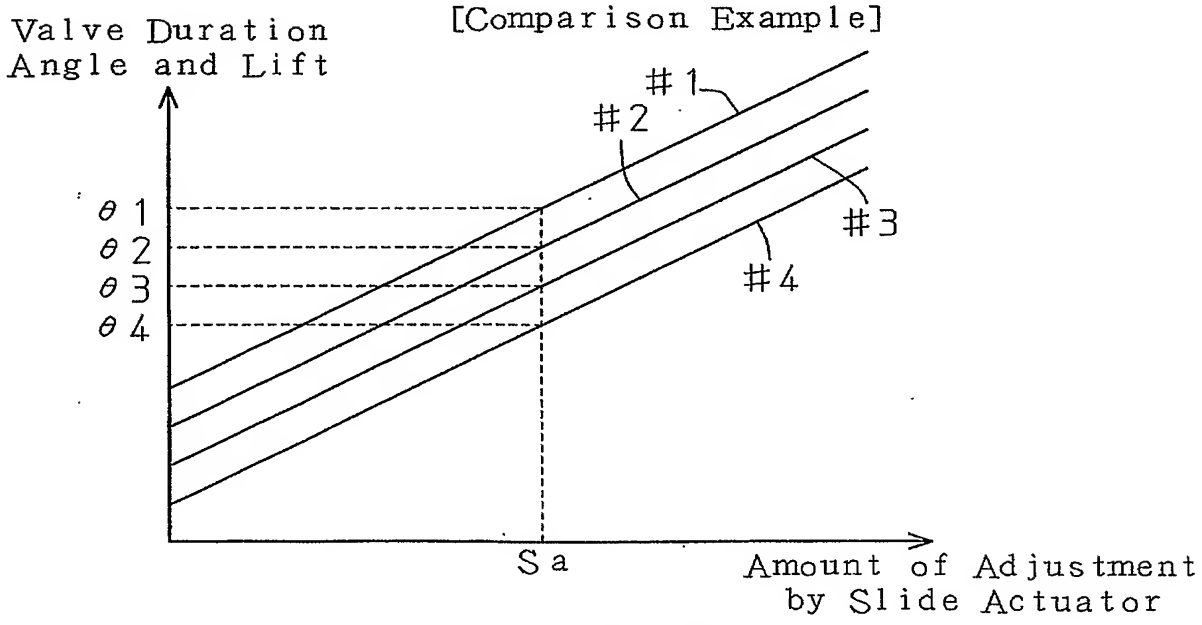

Valve Duration
Angle and Lift
[Comparison Example]
#1
#2
#3
#4
θ1
θ2
θ3
θ4
Sa
Amount of Adjustment
by Slide Actuator

Fig.28

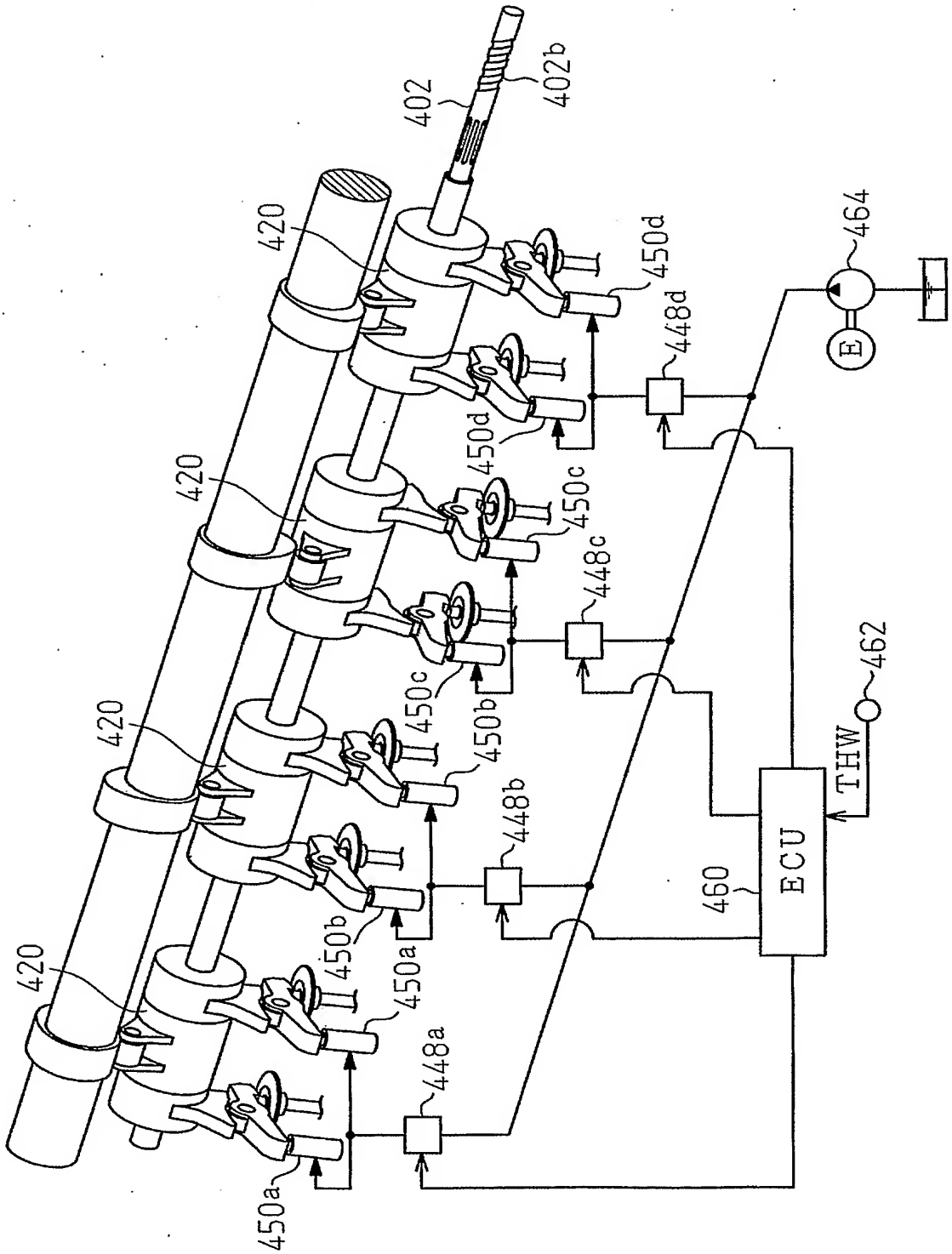

402
402b
420
450d
448d
464
E
450c
448c
462
THW
450b
448b
ECU
460
450a
448a

Fig.29

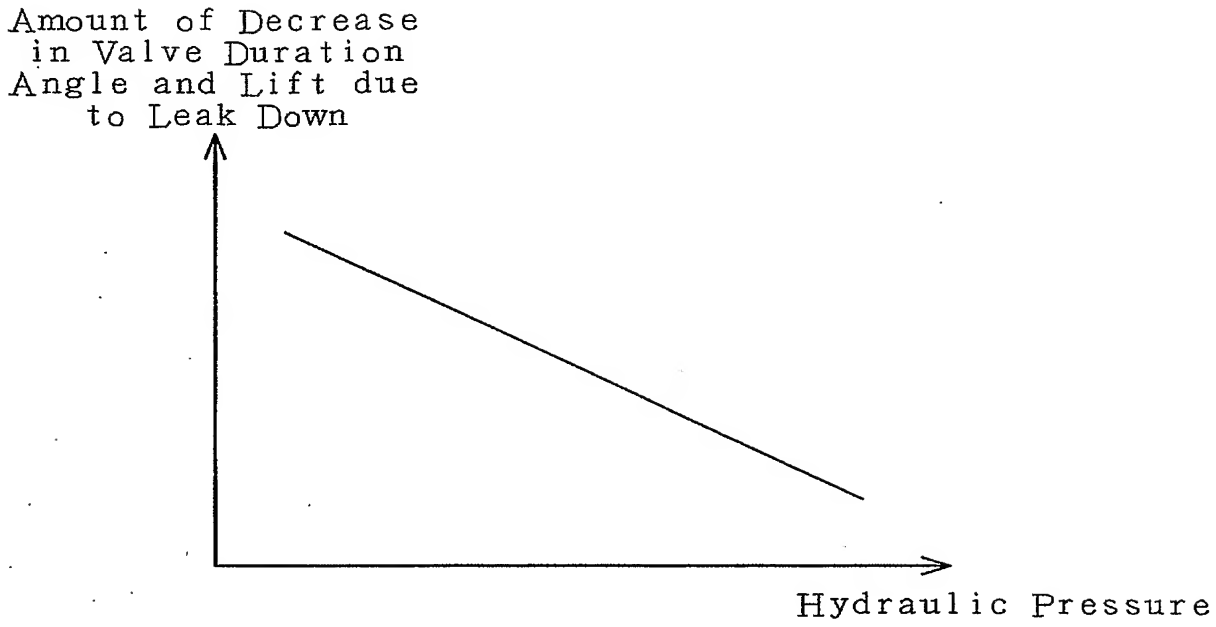

Amount of Decrease in Valve Duration Angle and Lift due to Leak Down
Hydraulic Pressure

Fig.30

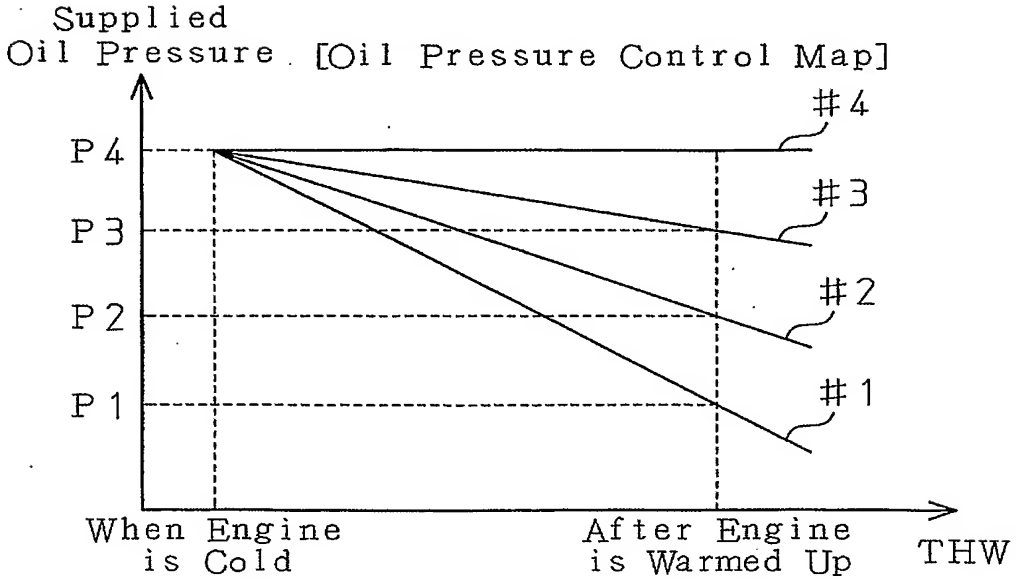

Supplied Oil Pressure
[Oil Pressure Control Map]
#4
#3
#2
#1
P4
P3
P2
P1
When Engine is Cold
After Engine is Warmed Up
THW

Fig.31

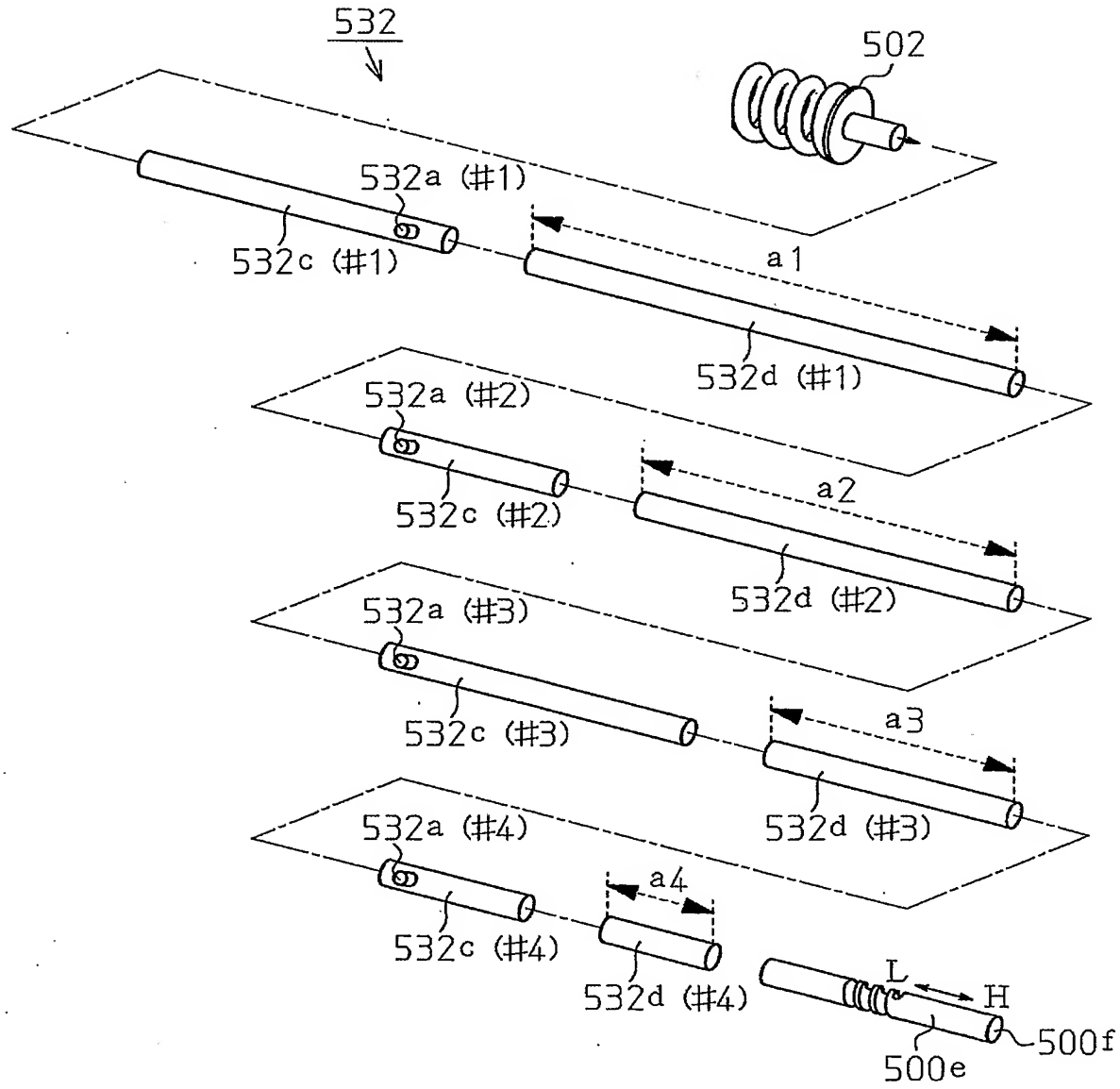

532
502
532a (#1)
532c (#1)
a1
532d (#1)
532a (#2)
532c (#2)
a2
532d (#2)
532a (#3)
532c (#3)
a3
532d (#3)
532a (#4)
532c (#4)
a4
532d (#4)
L
H
500f
500e

Fig.32

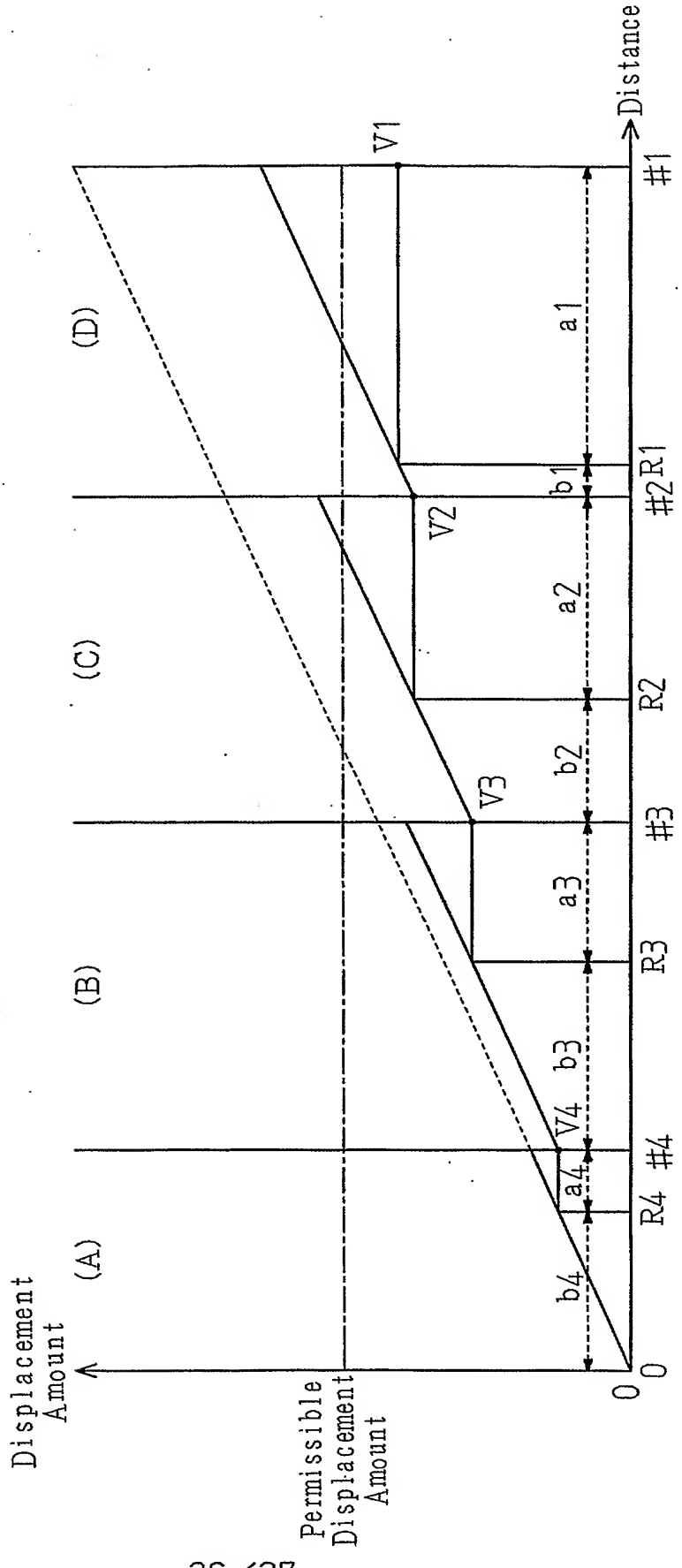

Displacement Amount
Permissible Displacement Amount
Distance
0
(A)
(B)
(C)
(D)
#1
#2
#3
#4
R1
R2
R3
R4
V1
V2
V3
V4
a1
a2
a3
a4
b1
b2
b3
b4

Fig.33